Claims

I claim:

1. A method used to configure a control system for a luminent device consisting of a Host computer with a configuration database, and an embedded software enabled control system, wherein said method consists of loading said system with information affecting configuration and performance.
2. The software enabled control system according to claim 1, wherein said system further consists of: modular software architecture, and a configurable method of operation, wherein the method of operation of the control system is determined by the rules and models provided by a system configuration residing in memory.
3. The software enabled control system according to claim 2, wherein said system is hardware agnostic and uses a database to configure the system to a specific electronic and optical hardware platform, and further wherein in said system the resolution of the analog to digital converters and the digital to analog converters is determined by settings in a database
4. The software enabled control system according to claim 2, wherein programs can be downloaded by said Host computer for the purpose of modification of a control algorithm for a luminent device or a system containing a luminent device.
5. The software enabled control system according to claim 2, wherein said system further contains built-in criteria and performance monitors to check for compliance

with predetermined criteria set points embedded in said Configuration database by said Host computer.

6. The software enabled control system according to claim 2, wherein said system further contains internal gages, which reflect performance of the system controlled.

7. The gages according to claim 6, wherein said gages indicate remaining life of the system based on a built-in model.

8. A luminent device automatic characterization process consisting of analog sensor inputs and outputs and, an embedded algorithm, which collects data corresponding to a characteristic transfer function for said luminent device.

9. The luminent device characterization process according to claim 8, wherein collected data undergoes processing through mathematical formulas and statistical analysis to obtain a luminent device characteristic.

10. A servo control for a luminent device comprising: a mathematical model for said luminent device, a feedback control system, and a set of analog and digital I/Os in a hardware configuration, wherein said servo control system can be modified while it is in operation by changing servo parameters in an embedded system configuration.